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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/079,864	05/15/1998	JASON P. RHODE	2836-P190US	8805

7590 06/23/2004

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EXAMINER
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GRIER, LAURA A

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 06/23/2004

17

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/079,864

Applicant(s)

RHODE ET AL.

Examiner

Laura A Grier

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 8-9 and 23-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8,9,23 and 24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

2. The indicated allowability of claims 8 and 23 is withdrawn in view of the newly discovered reference(s) to Fink. Rejections based on the newly cited reference(s) follow.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8-9 and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tofte in view of Fink, U. S. Patent No. 5652542.

Regarding **claim 8 and 23, respectively**, Tofte discloses a three-track stereophonic system. Tofte's disclosure comprises a conventional stereo sound source such a FM stereo tuner or a tape deck producing a left and right channel signal inputs (figure 1 and col. 1, lines 57-68 and col. 2, lines 1-15), the signal are filtered (step 1), accordingly, compressed (step 2) and respective filtered left and right channels are combined (step 3), expanded (step 4) and step 5, combined via amplifiers, which constitutes as a driving circuit to generate a left channel output, a

right output and center output (common mode output), respectively, wherein the center output includes combined left and right signals, the left output includes combined left, right and center signals, and the right output includes combined right, left and center signals, which indicates each output being dependent upon each other for reducing clipping effects, which is supported by the fact that the signals are compressed and expand (col. 2, lines 10-68 and col. 3, lines 1-37). However, Tofte fails to specifically disclose the driving circuits comprising digital processors.

Regarding the driving circuits comprising digital processors, in a similar field, Fink discloses a digital signal processor for amplifier (figure 2), which includes an amplifier comprising a digital signal processor (references 105/250, abstract, col. 4, lines 40-55), which reads on the driving circuit comprising a digital processor.

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Tofte by implementing DSP in the amplifiers (driving circuits) of each channel for the purpose of modifying the signals via signal processing functions and parameter prior to output from the amplifiers.

Regarding claims 9 and 24, Tofte and Fink discloses everything claimed as applied above (see claims 8 and 23, respectively). Fink further discloses the amplifier having DACs coupled to the output of the DSP and input to an amplifier (figure 2, and col. 5, lines 31-36).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Tofte by implementing DACs coupled to the input of the amplifier(s) in each channel for the purpose of converting digital signals output by the DSPs in analog signals and amplifying the signals are desired.

***Response to Arguments***

5. The applicant did not make any arguments. The remarks are reference to an clarification of the amended changes.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura A Grier whose telephone number is (703) 306-4819. The examiner can normally be reached on Monday - Friday, 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on (703) 305-4386.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**Or faxed to:**

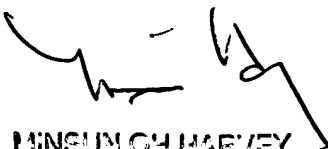
**(703) 872-9314 (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

LAG

June 18, 2004

  
MINSUN OH HARVEY  
PRIMARY EXAMINER